

CLAIMS

1. An information processing apparatus capable of mounting a storage medium having a data recording area, the data recording area including a user area to which logical addresses are allocated in accordance with recording units, the apparatus comprising:

a determination section for, based on physical characteristics of the mounted storage medium, determining which one of a first storage medium accommodated in a cartridge and a second storage medium not accommodated in a cartridge has been mounted;

a processor for, based on a result of determination, giving an instruction that, when the second storage medium has been mounted, the data recording area be formed as the user area and a spare area to be used as a substitute if a defect exists in a recording unit of the user area, and giving an instruction that, when the first storage medium has been mounted, all area of the data recording area be formed as the user area; and

a recording section for, based on the instruction, forming the user area and/or the spare area in the data recording area of the mount storage medium.

2. The information processing apparatus of claim 1, wherein the determination section determines mounting of one of the first storage medium and the second storage medium based on physical characteristics of the storage medium which differ based on presence or absence of a cartridge.

3. The information processing apparatus of claim 2, further comprising a detection section for outputting different signals based on a change in physical state that is based on a physical shape of the cartridge,

wherein the determination section determines which one of the first storage medium and the second storage medium has been mounted based on the signal which is output from the detection section.

4. The information processing apparatus of claim 1,

wherein,

the first storage medium and the second storage medium have substantially the same recording capacity;

the information processing apparatus is capable of mounting a third storage medium having a recording capacity different from recording capacities of the first storage medium and the second storage medium; and

the determination section further determines mounting of the third storage medium based on physical characteristics of the storage medium which differ depending on recording capacity.

5. The information processing apparatus of claim 4, wherein the determination section further determines mounting of the third storage medium based on recording density.

6. The information processing apparatus of claim 4, wherein,

the first storage medium and the second storage medium have substantially the same number of recording layers, and

the third storage medium has a different number of recording layers from the number of recording layers of the first storage medium and the second storage medium; and

the determination section further determines mounting of the third storage medium based on optical characteristics which differ depending on the number of recording layers.

7. The information processing apparatus of claim 4, wherein,

the third storage medium has a different physical shape from those of the first storage medium and the second storage medium; and

the determination section further determines mounting of the third storage medium based on the physical shape.

8. The information processing apparatus of claim 7, further comprising a first detection section and a second detection section for outputting different signals based on a change in physical state that is based on a physical shape of the cartridge;

the first detection section and the second detection section are located so as to output different signals when the first storage medium is mounted, based on the physical shape of the cartridge, and output the same signal when the third storage medium is mounted; and

the determination section determines mounting of the third storage medium based on the signals which are output from the first detection section and the second detection section.

9. The information processing apparatus of claim 7, further comprising a driving section for driving a mounted storage medium, wherein,

in accordance with a mass of the mounted storage medium, the driving section adjusts a physical parameter which is necessary for driving the storage medium under a predetermined condition; and

the determination section determines mounting of the third storage medium based on information concerning the physical parameter adjusted by the driving section.

10. The information processing apparatus of claim 1, wherein,

the first storage medium and the second storage medium each includes an information area storing information identifying the type of storage medium, the information area being different from the data recording area; and

the determination section determines which one of the first storage medium and the second storage medium has been mounted by reading the information from the information area of the mounted storage medium.

11. An area formation method to be executed in an information processing apparatus capable of mounting a storage medium having a data recording area, the data recording area including a user area to which logical addresses are allocated in accordance with recording units, the method comprising the steps of:

determining which one of a first storage medium accommodated in a cartridge and a second storage medium not

accommodated in a cartridge has been mounted based on physical characteristics of the mounted storage medium;

based on a result of determination, giving an instruction that, when the second storage medium has been mounted, the data recording area be formed as the user area and a spare area to be used as a substitute if a defect exists in a recording unit of the user area, and giving an instruction that, when the first storage medium has been mounted, all area of the data recording area be formed as the user area; and

based on the instruction, forming the user area and/or the spare area in the data recording area of the mount storage medium.